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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/064,129

06/13/2002

Anant Achyut Setlur

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08/10/2005

GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH
PATENT DOCKET RM. BLDG. K1-4A59
NISKAYUNA, NY 12309

EXAMINER

HODGES, MATTHEW P

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/064,129

Applicant(s)

SETLUR ET AL

Examiner

Matt P. Hodges

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-16, 20-22, 26-31, 36-39, 44-47, 52, 55, 57, 59, 61, 63, 65 and 67 is/are allowed.
- 6) ☒ Claim(s) 7, 8, 17, 19, 24, 25, 33, 34, 41, 42, 49, 50, 53, 54, 60 and 66 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims pending in the application are 7-17,19-22,24-31,33,34,36-39,41,42,44-47,49,50,52-55,57,59-61,63 and 65-67.

DETAILED ACTION

Response to Amendment

The Amendment, filed on 7/6/2005, has been entered and acknowledged by the Examiner.

Claim Objections

Claims 7 and 8 are objected to because of the following informalities:

Claims 7 and 8 depend upon cancelled claim 1 and should be amended or cancelled. For the purposes of examination claims 7 and 8 will be treated with all the limitations of previous claim 1 included.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 7, 8, 17, 19, 24, 25, 33, 34, 41, 42, 49, 50, 60, and 66 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuda et al. (US 5,808,409).

Regarding claims 7, 8, 24, 25, 33, 34, 49, and 50, Matsuda discloses a lamp including a tube filled with mercury vapor. The tube is coated with a phosphor blend including among other phosphors $\text{LaPO}_4\text{:Ce}$, Tb and $\text{Gd}_2\text{O}_3\text{:Eu}$. (Column 12 line 47 – Column 13 line 10). It is noted

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that the mercury discharge tube of this type emits UV radiation primarily at around 254nm. The phosphor blend is likewise sensitive to this wavelength.

Regarding claims 17, 19, 41, and 42, Matsuda additionally discloses the use of MgWO_4 as a phosphor in the fluorescent lamp. (Column 9 lines 10-28).

Regarding claim 4, the emitted light is a combination of red, green and blue phosphors which equates to white light.

Regarding claims 5 and 6, Matsuda does not explicitly state the color coordinates of the white light however color coordinates of a phosphor blend are an inherent property of the blend itself. In this case the color coordinates are substantially close to the reference color of a black body locus.

Regarding claim 60, Matsuda does not explicitly state the CRI range of the end phosphor blend however the CRI is an inherent property of the blend itself. In this case the phosphor blend would ideally have a CRI of greater than 80.

Regarding claim 66, Matsuda does not explicitly state the CCT range of the end phosphor blend however the CCT is an inherent property of the blend itself. In this case the CCT would be less than 6500K and greater than 2700K.

Claims 53 and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by Northrop et al. (US 5,122,710).

Regarding claims 53 and 54, Northrop discloses a lamp including a tube filled with mercury vapor. The tube is coated with a phosphor blend including among other phosphors (Sr, Ca, Ba)₅(PO₄)₃Cl:Eu and Y₂O₃:Eu. (Column 3 line 50 – Column 4 line 12). It is noted that the

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mercury discharge tube of this type emits UV radiation primarily at around 254nm. The phosphor blend is likewise sensitive to this wavelength.

Allowable Subject Matter

Claims 9-16, 20-22, 26-31, 36-39, 44-47, 52, 55, 57, 59, 61, 63, 65 and 67 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 9, 10, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims 10 and 11, and specifically comprising the limitation of a phosphor blend including $(\text{Tb}, \text{Y}, \text{Lu}, \text{La}, \text{Gd})_x (\text{Al}, \text{Ga})_y \text{O}_{12}:\text{Ce}^{3+}$ along with another phosphor where the phosphor blend absorbs EM radiation in a range from about 250nm to 350nm.

Regarding claims 11-13, claims 11-13 are allowable for the reasons given in claim 10 because of their dependency status from claim 10.

Regarding claims 14-16, claims 14-16 are allowable for the reasons given in claim 9 because of their dependency status from claim 9.

Regarding claim 20, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 20, and specifically comprising the limitation of a phosphor blend of the stated phosphors where the phosphor blend absorbs EM radiation in a range from about 200nm to 400nm. See applicant's response filed 12/14/2004 for further explanation.

Regarding claims 21 and 22, claims 21 and 22 are allowable for the reasons given in claim 20 because of their dependency status from claim 20.

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Regarding claim 26, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 26, and specifically comprising the limitation of a phosphor blend of the stated phosphors where the phosphor blend absorbs EM radiation in a range from about 200nm to 400nm. See applicant's response filed 12/14/2004 for further explanation.

Regarding claim 27, claim 27 is allowable for the same reasons given in claim 26.

Regarding claim 28, claim 28 is allowable for the same reasons given in claim 27 because of its dependency status from claim 27.

Regarding claim 29, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 29, and specifically comprising the limitation of a phosphor blend of the stated phosphors where the phosphor blend absorbs EM radiation in a range from about 200nm to 400nm. See applicant's response filed 12/14/2004 for further explanation.

Regarding claim 30, claim 30 is allowable for the same reasons given in claim 26.

Regarding claim 31, claim 31 is allowable for the same reasons given in claim 30 because of its dependency status from claim 30.

Regarding claim 36, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 36, and specifically comprising the limitation of a light source including a source of gas discharge and a phosphor blend including (Tb, Y, Lu, La, Gd)_x (Al, Ga)_y O₁₂:Ce³⁺ along with another phosphor where the phosphor blend absorbs EM radiation in a range from about 200nm to 400nm.

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Regarding claims 37-39, 57, and 63, claims 37-39, 57, and 63 are allowable for the reasons given in claim 36 because of their dependency status from claim 36.

Regarding claim 44, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 44, and specifically comprising the limitation of a light source including a source of gas discharge and a phosphor blend including 2 of the phosphors from the list provided where the phosphor blend absorbs EM radiation in a range from about 200nm to 4000nm.

Regarding claims 45-47, 59, and 65, claims 45-47, 59, and 65 are allowable for the reasons given in claim 44 because of their dependency status from claim 44.

Regarding claim 52, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 52, and specifically comprising the limitation of a phosphor blend of the stated phosphors where the phosphor blend absorbs EM radiation in a range from about 200nm to 400nm. See applicant's response filed 12/14/2004 for further explanation.

Regarding claims 55, 61, and 67, claims 55, 61, and 67 are allowable for the reasons given in claim 52 because of their dependency status from claim 52.

Conclusion

It is now more broadly interpreted that limiting the values of x and y in the claims above do not require the selection of the phosphor including x and y as one of the selected two phosphors unless explicitly called for in the claim language.

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As allowable subject matter has been withdrawn, prosecution has been reopened and this action is made non-final.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matt P Hodges whose telephone number is (571) 272-2454. The examiner can normally be reached on 7:30 AM to 4:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mph



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PRIMARY EXAMINER